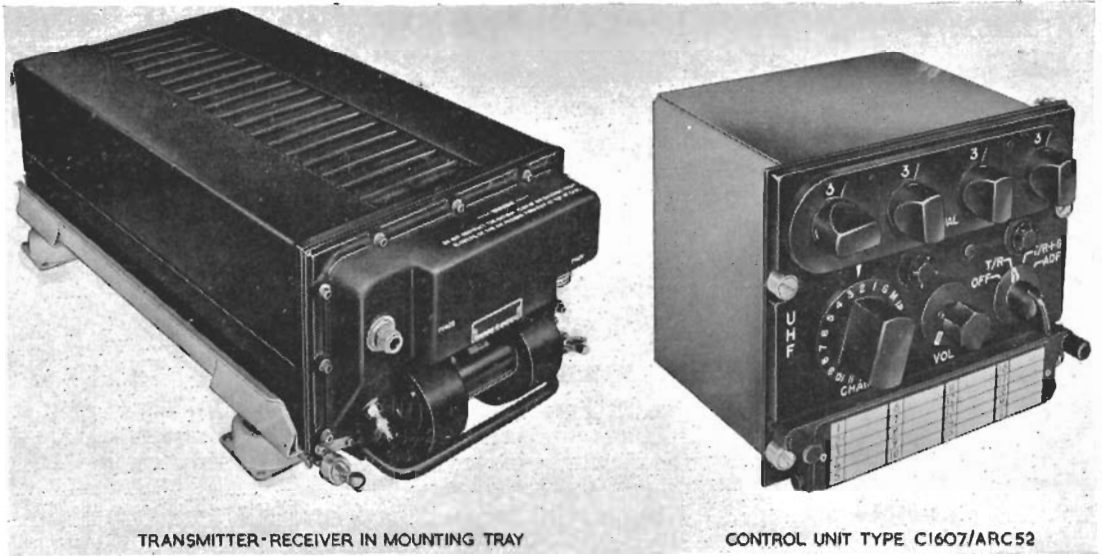


For further information see: —  
A.P.2531J

## ARI.18124/1, ARI.18124/2 (TRANSMITTER-RECEIVER ARC/52)



TRANSMITTER-RECEIVER IN MOUNTING TRAY

CONTROL UNIT TYPE C1607/ARC52

<b>Function</b>	... ..	Multi-channel u.h.f. R/T transmitter-receiver for communication between aircraft and base and also between aircraft in flight. Facilities are included for automatic selection of any one of 19 preset frequencies (including the guard frequency), and manual selection of any one of 1750 frequency channels spaced 100 kc/s apart.  M.C.W. is available for emergency and direction-finding purposes.  Airborne relay facilities can be made available using an identical transmitter-receiver.  The transmitter-receiver incorporates facilities for use with automatic direction finding equipment.
<b>Range</b>	... ..	100 miles at 20 000 ft. 200 miles or more at 50 000 ft.
<b>Frequency range</b>	... ..	225.0 Mc/s to 399.9 Mc/s.
<b>Frequency control</b>	... ..	Crystal.
<b>Frequency channels</b>	... ..	1750 (at 100 kc/s intervals).
<b>Preset channels</b>	... ..	18 plus guard.
<b>Guard receiver frequency band</b>	... ..	238.0 Mc/s to 248.0 Mc/s.
<b>I.F.</b>	... ..	20 Mc/s to 29.99 Mc/s and 1.85 Mc/s.

<b>Temperature limits</b>	...	...	- 55 deg.C to + 55 deg.C.
<b>Power supplies</b>			
<b>ARI.18124/1</b>	...	...	27.5 V d.c. ◀ <i>Receive</i> 10.5 A <i>Transmit</i> 15 A <i>Channel change</i> 15 A
<b>ARI.18124/2</b>	...	...	27.5 V d.c. <i>Receive</i> 1.1 A <i>Transmit</i> 1.5 A <i>Channel change</i> 7.5 A
			115 to 200 V, 400 c/s, 3-phase a.c. <i>Receive</i> 240 V A <i>Transmit</i> 390 V A <i>Channel change</i> 240 V A ▶
<b>Channel selection time</b>	...	...	6 seconds (approx.)

### RECEIVER

<b>Sensitivity</b>	...	...	An r.f. input of 5 $\mu$ V (open circuit) modulated 30% at 1000 c/s produces an audio output of at least 50 mW, and the signal-plus-noise to noise ratio is 10 dB, or more.
<b>A.V.C. characteristics</b>	...	...	When a 1000 $\mu$ V signal modulated 30% at 100 c/s is applied, the audio output is at least 250 mW. When the output is varied from 10 $\mu$ V to 100mV, the output is within $\pm$ 3dB of the level at 1000 $\mu$ V.
<b>Input impedance</b>	...	...	50 ohms nominal.
<b>Output impedance</b>	...	...	300 ohms or 50 ohms, resistive.
<b>Modulation</b>	...	...	Amplitude.
<b>Harmonic distortion</b>	...	...	Less than 10 per cent.
<b>Audio frequency response</b>	...	...	300 c/s to 4000 c/s.
<b>Noise limiting</b>	...	...	Instantaneous peak limiting.
<b>Auxiliary audio output</b>	...	...	0.25 V, with a 1 mV input modulated 30% at 1000 c/s for use with automatic direction finding equipment.
<b>Auxiliary audio output impedance</b>	...	...	20 000 ohms, resistive.

### TRANSMITTER

<b>R.F. power output</b>	...	...	20 W (approx.).
<b>Output impedance</b>	...	...	50 ohms nominal.
<b>Modulation</b>	...	...	R/T, not less than 80% with a 1000 c/s signal at 0.1V for carbon microphones, and 10 mV for dynamic microphones.
<b>Tone modulation</b>	...	...	M.C.W., approximately 80 to 100% from 920 c/s to 1120 c/s.

<b>Input impedance</b>	...	...	Carbon microphone, 82 ohms. Dynamic microphone, 200 ohms.
<b>Frequency response</b>	...	...	150 c/s to 20 000 c/s.
<b>Sidetone</b>	...	...	Alternative systems are available: — (1) By rectified carrier. (2) From modulator.
<b>Transmit-receive time interval</b>			300 ms (maximum).

## PRINCIPAL ITEMS OF INSTALLATIONS

<i>Ref. No.</i>	<i>Item</i>	<i>Dimensions (in.)</i>	<i>Weight (lb)</i>
5821-99-942-8541	Transmitter-receiver Type TR4/ARC52 (part of ARI.18124/2)	$21 \times 10\frac{1}{8} \times 7\frac{3}{16}$	48 $\frac{1}{4}$
	or		
5821-99-942-8542	Transmitter-receiver Type TR5/ARC52 (part of ARI.18124/1)	$21 \times 10\frac{1}{8} \times 7\frac{3}{16}$	48 $\frac{1}{4}$
5821-99-942-8544	Tray, mounting, Type MT1477/ARC52	$21 \times 11\frac{1}{4} \times 3$	3 $\frac{1}{4}$
5821-99-942-8543	Control unit Type C1607/ARC52	$5\frac{3}{4} \times 4\frac{7}{8} \times 5\frac{5}{8}$	3
5821-99-932-6361	◀ Interconnecting box Type XCA/ARC52-3600	$6\frac{1}{8} \times 4\frac{3}{8} \times 2\frac{3}{4}$	— ▶
— — — —	Connector set		